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April 4, 2003

Commissioner For Patents  
Washington, D.C. 20231

Re: U.S. Patent Application No.: 09/964,261  
Title: *Method For The Amplification of HLA Class I Alleles*  
Inventor: Ilse De Canck, et al.  
Filed: September 25, 2001  
Our Ref. No.: IGJ-002

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

1. Response to Restriction Requirement (4 pages); and
2. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Response to Restriction Requirement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

"Express Mail" mailing label number EL 931 680 886 US

Date of Deposit April 4, 2003

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Washington, DC 20231

Signature

Larry Taylor

Please Print Name of Person Signing

LAHIVE & COCKFIELD, LLP  
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By

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Ilse De Canck, et al.

Serial No.: 09/964,261

Filed: September 25, 2001

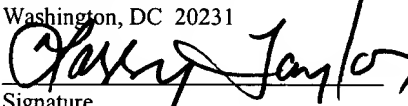
For: Method For The Amplification of HLA  
Class I Alleles

Attorney Docket No.: IGJ-002

Group Art Unit: 1634

Examiner: Myers, Carla J.

Commissioner for Patents  
Washington, D.C. 20231

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Signature Larry Taylor  
Please Print Name of Person Signing

**RESPONSE TO RESTRICTION REQUIREMENT**

Dear Sir:

This is in response to the restriction requirement set forth in the Office Action dated March 4, 2003 (Paper No. 8).

The Examiner has required restriction to one of the following inventions under 35 U.S.C. § 121:

- I. Claims 1-5, 7-10, 13, 16, 17, 22 and 24, drawn to methods and primers for amplifying exon 2 of HLA-A, HLA-B and HLA-C, classified in class 435, subclass 24.33.
- II. Claims 1-4, 7-9, 11, 14, 16 22, and 25, drawn to methods and primers for amplifying exon 3 of HLA-A, HLA-B and HLA-C, classified in class 435, subclass 24.33.
- III. Claims 1-4, 6-7, 9, 12, 15, 17, 22 and 23, drawn to methods and primers for amplifying exon 4 of HLA-A, HLA-B and HLA-C, classified in class 435, subclass 24.33.

In addition, the Examiner has further required election of a single set of primer pairs corresponding to (i.e., capable of amplifying) the elected exon (i.e., exon 2, exon 3 or exon 4) of each of HLA alleles A, B and C. Finally, the Examiner has required election of three locus-specific target sequences specified in claim 2 that correspond to (i.e., are capable of being amplified by) the set of elected primers.

#### ***Election***

Applicants elect Group I (1-5, 7-10, 13, 16, 17, 22 and 24), with traverse. Applicants further elect the individual sequences SEQ ID NO: 144 and SEQ ID NO: 1 for HLA-A; SEQ ID NO: 145 and SEQ ID NO: 109 for HLA-B; and SEQ ID NO: 146 and SEQ ID NO: 149 for HLA-C. With respect to target sequences, Applicants elect positions 67 (which corresponds to elected HLA-A primer pair), 170 (which corresponds to elected HLA-B primer pair), and 107 (which corresponds to HLA-C primer pair).

#### ***Traversal***

Applicants respectfully traverse and request reconsideration of the restriction requirement in the following manner.

Applicants request that the inventions of Groups I – III be divided by HLA allele, not by exon. In other words, Applicants request that exons 2, 3 and 4 of each HLA allele (i.e., allele A, B and C) be examined together, such that Applicants elect one HLA allele

that includes exons 2, 3 and 4 of the allele. It is respectfully noted that, under this restriction scheme, Applicant would elect the same number of sequences as was originally required. Thus, there would be no additional burden on the Examiner.

Specifically, Applicant would elect a single set of primer pairs corresponding to (i.e., capable of amplifying) each exon (i.e., exon 2, exon 3 or exon 4) within the elected HLA allele. Applicant would further elect three locus-specific target sequences specified in claim 2 that correspond to (i.e., are capable of being amplified by) the set of elected primers.

Accordingly, Applicants respectfully request that the restriction requirement be reconsidered and that the inventions of Groups I – III be regrouped as follows:

- I. Claims 1-17, and 22-25, Drawn to methods and primers for the locus specific, separate amplification of exon 2, exon 3 and/or exon 4 of HLA-A alleles;
- II. Claims 1-17, and 22-25, Drawn to methods and primers for the locus specific, separate amplification of exon 2, exon 3 and/or exon 4 of HLA-B alleles;
- III. Claims 1-17, and 22-25, Drawn to methods and primers for the locus specific, separate amplification of exon 2, exon 3 and/or exon 4 of HLA-C alleles.

Should the Examiner agree to the foregoing regrouping, then Applicants will elect Group I (relating to HLA-A) for prosecution on the merits. Applicants will further elect the following primer pairs (individual sequences): SEQ ID NO: 144 and SEQ ID NO: 1 for exon 2; SEQ ID NO: 104 and SEQ ID NO: 147 for exon 3; and SEQ ID NO: 205 and SEQ ID NO: 311 for exon 4. For target sequences, Applicants will elect positions 67 and 181 (within intron 2 of HLA-A); and position 501 (within intron 3 of HLA-A).

Applicants respectfully submit that the foregoing restriction, involving the same number of elected sequences as under the grouping required by the Examiner, is more consistent with the nature of the invention. Indeed, an important aspect of the present invention is the *simultaneous* amplification of exon 2, exon 3 and/or exon 4 of *one specific HLA locus*. For example, as discussed on page 8, lines 17-20, of the

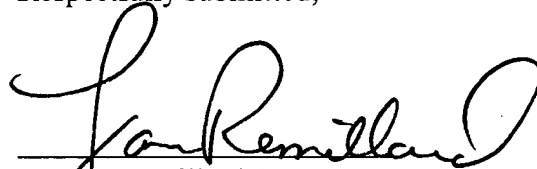
specification, the invention provides specific primers that enable the co-amplification of exon 2, exon 3 and/or exon 4 of one HLA locus, while the exons of other HLA-loci are not co-amplified. In addition, as discussed at page 11, lines 3 and following, of the application, exon 2 and exon 3, exon 2 and exon 4, exon 3 and exon 4 or exon 2, exon 3 and exon 4 can be amplified by use of a multiplex primermix. Moreover, Applicants provide working examples of co-amplifying two or three exons for one specific HLA locus.

Accordingly, under the restriction scheme proposed by Applicants, this important aspect of the invention, i.e., the co-amplification of exons within a given HLA allele, can be maintained and examined within the present application.

### SUMMARY

If a telephone conversation with Applicant's Attorney would expedite the prosecution of the above-identified application, the Examiner is urged to call Applicants' Attorney at (617) 227-7400.

Respectfully submitted,



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Dated: April 4, 2003